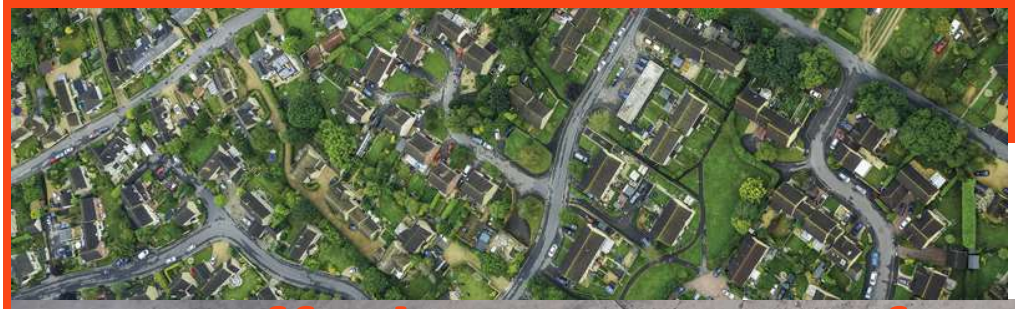
Cadent

Your Gas Network



Offtake Meter Performance Report

July 2021

Offtake Meter Performance

Cadent operates and maintains a number of exit points from the National Grid where offtake flow is measured and validated in accordance with the UNC and The Gas (Calculation of Thermal Energy) Regulations.

Report to the Performance Assurance Committee July 2021.

Requirements

1. Number and magnitude of Meter Error reports.
2. Copy of Regulatory Reporting Pack Meter Error report.
3. Annual ME2 Meter Validation report.

Introduction

This document has been written to demonstrate that instrumentation and equipment associated with measurement systems for the calculation of mass, volume or energy flow rate of gas are functioning correctly. The ME2 Part 3 Work Procedure for Flow Weighted Average Calorific Value (FWACV) Offtakes is used to ensure metering equipment at the offtakes are validated and maintained correctly, thus ensuring that the complete metering system continues to perform within the uncertainty requirements.

ME2 Part 3 - FWACV Offtakes

The ME2 Part 3 Work Procedure sets out a number of tests and calibrations designed to ensure all aspects of flow metering such as flow computers, pressures and temperatures are setup and working within tolerances.

All sites must be validated annually with a maximum interval of twelve (12) months between validations.

Meter Errors

The Offtake Arrangements Document (OAD) requires the Offtake metering Measurement Equipment to be operating within its “Permitted Range” as indicated in the site specific “Supplemental Agreement”. If the Measurement Equipment is found to be operating outside its Permitted Range or with a systematic bias it is classed to be a “Fault”.

The Measurement Error Notification Guidelines only require the notification of faults which are likely to result in a systematic bias to the measured quantity. They do not cover faults associated with equipment operating outside its permitted range when the mismeasurement is of a random nature.

Systematic bias is deemed to be a bias resulting from the measurement system, leading on average to biases in measurement which results in measured values being systematically too high or too low.

Reconciliation

On identification of a possible meter error the Distribution Network is required to supply corrected readings for reconciliation only when the fault identified has a systematic bias of over 0.1% of the total offtake flow during the period of the error. These corrected readings are supplied as part of the “Measurement Error Report (MER)” or the “Significant Measurement Error Report (SMER)”, where a SMER will be an error estimated to exceed 50 GWh.

Null Reports

Should the magnitude of the total error be calculated to be less than 0.1% of the total offtake flow during the period of the meter error then no reconciliation will be made for any day within the error duration and a null report written.

Requirements

1. Meter Error Reports

3 meter errors for the period of August 2020 to July 2021 were reported.

Site	Size of Error (GWh)	% daily volume	reconciliation required	Open/Closed
ALREWAS OFFTAKE (C) MO1	TBC	TBC	Y	Open
LEAMINGTON OFFTAKE MT1	N/A Null	-0.0155%	N	Open
RUGBY OFFTAKE MO1	3.09	-2.205%	Y	Open

Table 1 - Meter Errors August 2020 to July 2021

2. Regulatory Reporting Pack Meter Error report

The following table 2 shows the RIIO-GD1 performance RRP 2020/2021 report for offtake meters energy contribution within the networks operated and maintained by Cadent.

LDZ - GWh - 20/21	EOE	NT	EA	EM	WM	NW	UKD
Total Energy (GWh)	101808.4	50211.0	42975.0	58833.4	44872.1	70672.2	267563.6
Abs error (GWh)	0.123	0.0000	0.123	0.0000	0.0000	0.0000	0.123
% err	0.0001%	0.0000%	0.0003%	0.0000%	0.0000%	0.0000%	0.0000%

Table 2 - Meter Error RRP Report

3. Annual ME2 Meter Validations

ME2 validation activities for the period August 2020 to July 2021 are shown in Table 3.

Maintenance Summary

67 individual metering streams were inspected and tested following the ME2 Maintenance Work Procedure. 3 metering streams (2 sites) were started outside of the 12-month validation window, due to Covid related resource issues.

Table 3 – Summary of ME2 Meter Validations – Aug 2020 to July 2021

Site Name		LDZ	Meter Type	Open Meter Error Reports	Last Validation End Date	Validation Start Date	Validation End Date	Started within 12 months of last?	Reconciliation required?	Comments
ALREWAS EM	MTD	EofE-EM	OP		03/07/2020	17/05/2021	27/05/2021	Y		
ALREWAS WM	MTA	WM	OP		03/07/2020	04/05/2021	13/05/2021	Y		
ALREWAS WM	MTB	WM	OP		03/07/2020	04/05/2021	13/05/2021	Y		
ASPLEY	MTA	WM	OP		18/05/2020	24/05/2021	07/06/2021	N		ME2 started late due to Covid related resource issues.
AUDLEY NW	MTC	NW	OP		24/04/2020	19/04/2021	13/05/2021	Y		
AUDLEY WM	MTE	WM	OP		24/04/2020	05/05/2021	21/05/2021	N		ME2 started late due to Covid related resource issues.
AUDLEY WM	MTD	WM	OP		22/04/2020	05/05/2021	21/05/2021	N		
AUSTREY	MO1	WM	OP		29/08/2019	19/08/2020	14/09/2020	Y		
BACTON	MT1	EofE-EA	TURB		26/02/2020	22/02/2021	26/02/2021	Y		Note 1 Scenario 1
BLABY	MO1	EofE-EM	OP		10/10/2019	05/10/2020	09/10/2020	Y		
BLACKROD	MTA	NW	OP		17/06/2020	15/06/2021	18/06/2021	Y		
BLACKROD	MTB	NW	OP		17/06/2020	15/06/2021	18/06/2021	Y		
BLYBOROUGH	MTA	EofE-EM	OP		19/06/2020	24/05/2021	28/05/2021	Y		
BRISLEY	MRA	EofE-EA	TURB		22/05/2020	17/05/2021	20/05/2021	Y		
BRISLEY	MRB	EofE-EA	TURB		22/05/2020	17/05/2021	20/05/2021	Y		
CALDECOTT	MO1	EofE-EM	OP		27/02/2020	08/02/2021	19/05/2021	Y		Note 1 Scenario 1
DROINTON	MT1	EofE-EM	USM		19/11/2019	09/11/2020	13/11/2020	Y		
DROINTON	MT2	EofE-EM	USM		19/11/2019	09/11/2020	13/11/2020	Y		
ECCLESTON	MTA	NW	OP		23/06/2020	06/04/2021	26/05/2021	Y		Note 1 Scenario 1
GOSBERTON	MTA	EofE-EM	OP		11/06/2020	08/06/2021	11/06/2021	Y		
GREAT WILBRAHAM	MO1	EofE-EA	OP		19/09/2019	14/09/2020	17/09/2020	Y		

HOLMES CHAPEL	MTA	NW	OP		24/06/2020	21/06/2021	23/06/2021	Y		
HORNDON	MTA	NL	OP		05/06/2020	02/06/2021	11/06/2021	Y		
KIRKSTEAD	MRA	EofE-EM	TURB		14/05/2020	12/05/2021	17/05/2021	Y		
KIRKSTEAD	MRB	EofE-EM	TURB		14/05/2020	12/05/2021	17/05/2021	Y		
LEAMINGTON	MT1	WM	TURB		24/01/2020	19/01/2021	22/01/2021	Y		Note 1 Scenario 2
LEAMINGTON	MT2	WM	TURB		24/01/2020	19/01/2021	22/01/2021	Y		Note 1 Scenario 2
LOWER QUINTON	MT1	WM	USM		16/01/2020	04/01/2021	08/01/2021	Y		
LOWER QUINTON	MT2	WM	USM		16/01/2020	04/01/2021	08/01/2021	Y		
LUPTON	MTA	NW	OP		03/06/2020	01/06/2021	03/06/2021	Y		
LUXBOROUGH LANE	MTA	NL	OP		26/05/2020	05/05/2021	19/05/2021	Y		
LUXBOROUGH LANE	MTB	NL	OP		26/05/2020	05/05/2021	19/05/2021	Y		
MALPAS	MT1	NW	TURB		05/02/2020	01/02/2021	03/02/2021	Y		
MARKET HARBOROUGH	MO1	EofE-EM	OP		24/07/2020	15/03/2021	19/03/2021	Y		Note 1 Scenario 1
MATCHING GREEN	MO1	EofE-EA	OP		16/03/2020	08/03/2021	14/05/2021	Y		Note 1 Scenario 1
MICKLE TRAFFORD	MTA	NW	OP		07/07/2020	05/07/2021	07/07/2021	Y		
MILWICH	MTA	WM	OP		17/06/2020	15/06/2021	18/06/2021	Y		
PARTINGTON	MO1	NW	OP		11/03/2020	08/03/2021	25/05/2021	Y		Note 1 Scenario 1
PETERBOROUGH EYE OFFTAKE	MO1	EofE-EA	OP		11/10/2019	05/10/2020	08/10/2020	Y		
PETERBOROUGH EYE OFFTAKE	MO2	EofE-EA	OP		11/10/2019	05/10/2020	08/10/2020	Y		
PETERS GREEN 1 ASCOT/HEDGERLEY	MTA	NL	USM		26/03/2019	23/03/2020	26/03/2020	Y		
PETERS GREEN 1 ASCOT/HEDGERLEY	MTB	NL	USM		26/03/2019	23/03/2020	26/03/2020	Y		
PETERS GREEN 2 SOUTH MIMMS	MTC	NL	OP		30/04/2020	20/04/2021	24/05/2021	Y		Note 1 Scenario 1
PETERS GREEN 2 SOUTH MIMMS	MTD	NL	OP		30/04/2020	20/04/2021	24/05/2021	Y		Orfice plate could not be replaced as replacement plate was damaged. New plate being manufactured and will be installed once ready. Note 1 Scenario 1
ROSS	MO1	WM	OP		23/09/2019	08/09/2020	15/09/2020	Y		
ROUDHAM HEATH	MO1	EofE-EA	OP		11/03/2020	08/03/2021	11/05/2021	Y		Note 1 Scenario 1
ROYSTON	MT1	EofE-EA	TURB		25/10/2019	19/10/2020	19/10/2020	Y		

ROYSTON	MT2	EofE-EA	TURB		25/10/2019	19/10/2020	19/10/2020	Y		
RUGBY	MO1	WM	OP		11/10/2019	06/10/2020	13/11/2020	Y		
SAMLESBURY	MTA	NW	OP		28/07/2020	19/07/2021	21/07/2021	Y		
SILK WILLOUGHBY	MT1	EofE-EM	USM		13/09/2019	07/09/2020	10/09/2020	Y		
SILK WILLOUGHBY	MT2	EofE-EM	USM		13/09/2019	07/09/2020	10/09/2020	Y		
STRATFORD-UPON-AVON	MT1	WM	USM		24/02/2020	16/02/2021	19/02/2021	Y		Note 1 Scenario 1
STRATFORD-UPON-AVON	MT2	WM	USM		24/02/2020	16/02/2021	19/02/2021	Y		Note 1 Scenario 1
SUTTON BRIDGE	MT1	EofE-EM	TURB		29/08/2019	10/08/2020	23/10/2020	Y		Spin down test completed late due to stream isolation issues.
SUTTON BRIDGE	MT2	EofE-EM	TURB		29/08/2019	10/08/2020	23/10/2020	Y		
THORNTON CURTIS	MTA	EofE-EM	OP		19/06/2020	19/04/2021	20/05/2021	Y		Note 1 Scenario 1
TUR LANGTON	MTA	EofE-EM	OP		14/07/2020	12/07/2021	16/07/2021	Y		
WALESBY	MT1	EofE-EM	TURB		24/01/2020	18/01/2021	22/01/2021	Y		
WALESBY	MT2	EofE-EM	TURB		24/01/2020	18/01/2021	22/01/2021	Y		
WARBURTON	MTA	NW	OP		19/06/2020	08/06/2021	10/06/2021	Y		
WEST WINCH	MO1	EofE-EA	OP		06/03/2020	02/03/2021	04/03/2021	Y		Note 1 Scenario 1
WESTON POINT	MO1	NW	OP		19/09/2019	17/08/2020	19/08/2020	Y		
WHITWELL	MTA	EofE-EA	OP		15/06/2020	07/06/2021	10/06/2021	Y		orfice plate changed in March due to high flow incident
WHITWELL	MTB	EofE-EA	OP		15/06/2020	07/06/2021	10/06/2021	Y		orfice plate changed in March due to high flow incident
WINKFIELD NT	MTC	NL	OP		22/06/2020	14/06/2021	22/06/2021	Y		
YELVERTON	MO1	EofE-EA	OP		25/09/2019	22/09/2020	24/09/2020	Y		

*Note 1: Each year Cadent updates a number of fixed factors used in the calculation of volume and energy flows depending on the metering technology deployed. This data is calculated based on previous years averages from either the offtake in question or from attributable offtakes where no GC is deployed on the offtake. Following the production / circulation of 2021 fixed factors it became apparent that there were gaps in the dataset in the system which is used to source the data and therefore the fixed factors were not fully representative of the previous years data. As soon as this became apparent the process of updating fixed factors was paused until the data could be corrected at which point the offtakes that had already undergone an ME/2 validation in 2021 were updated on an ad hoc basis (scenario 1). One offtake had already had the fixed factors deployed before the data issue was realised. As soon as the data had been corrected, updated fixed factors were deployed to this offtake (scenario 2). The scale of the error was very low and has been managed by the MER process in which it was categorised as a null MER.